

Access DB# 74144

SEARCH REQUEST FORM

Scientific and Technical Information Center

Phone # 306-5701

Requester's Full Name: K. EGIWIM Examiner #: 770 00 Date: 8/26/00
 Art Unit: 1713 Phone Number 30 687941 Serial Number: 09761625
 Mail Box and Bldg/Room Location: C3-9A11 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

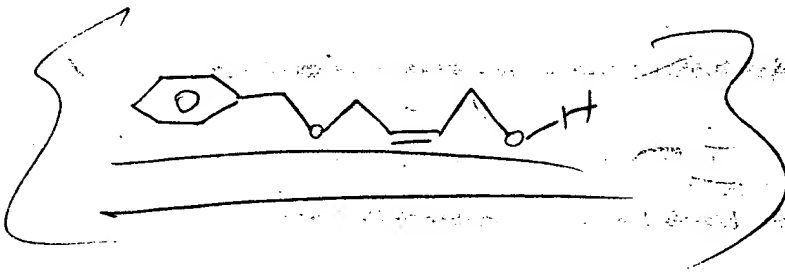
 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Stabilization of Polymers after Exposure to Oxidation
 Inventors (please provide full names): A. Wang

Earliest Priority Filing Date: 3/99

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please Search for the compound of claim 6 in any type of polymeric composition. Do NOT ^{OK} limit the search to stabilizers.



STAFF USE ONLY

Type of Search

Vendors and cost where applicable

Searcher: EL NA Sequence (#) STN \$ 315.37
 Searcher Phone #: AA Sequence (#) 2/25 Dialog
 Searcher Location: Structure (#) (3) subsets
 Date Searcher Picked Up: Bibliographic (and) Questel/Orbit
 Date Completed: 2-27-02 Link
 Searcher Prep & Review Time: 5 Litigation Lexis/Nexis
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 Online Time: Patent Family WWW/Internet
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FILE 'REGISTRY' ENTERED AT 11:15:06 ON 27 AUG 2002
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L1 FILE 'LREGISTRY' ENTERED AT 10:35:32 ON 27 AUG 2002
STR

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L4 3 S L1 AND L3
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L7 STR L1
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L15 32 S L13 NOT L14
L16 8 S L13 AND L14

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L18 FILE 'ZCAPLUS' ENTERED AT 10:53:34 ON 27 AUG 2002
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L20 QUE CROSSLINK? OR CROSS?(2A)LINK?
L21 1254274 S STABL? OR STABIL?
L22 7 S L18 AND (L19 OR L20)
L23 8 S L18 AND L21

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L27 7 S L25 AND L26

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L36 135 S L34

FILE 'REGISTRY' ENTERED AT 11:03:37 ON 27 AUG 2002

SEL L34 1-8 RN
L37 8 S E1-E8
SEL L34 9 RN
L38 1 S E9
SEL L34 10 RN
L39 1 S E10

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L40 96 S L37
L41 16 S L38
L42 45 S L39

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SEL L34 1-7 RN
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SEL L34 8 RN
L44 1 S E18

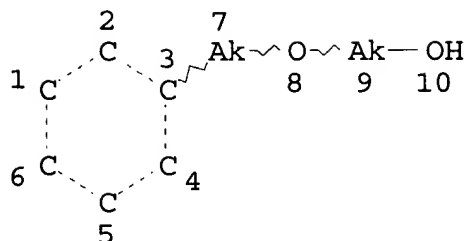
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L48 16 S L22 OR L23 OR L31 OR L45 OR L47
L49 46 S L28 NOT L48

FILE 'REGISTRY' ENTERED AT 11:15:06 ON 27 AUG 2002

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L3 SCR 1838 AND 1707 AND 1836 AND 1044
L7 STR



NODE ATTRIBUTES:

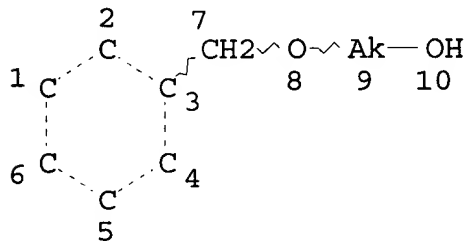
CONNECT IS E2 RC AT 7
 CONNECT IS E2 RC AT 9
 DEFAULT MLEVEL IS ATOM
 GGCAT IS SAT AT 7
 GGCAT IS UNS AT 9
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

L9 469 SEA FILE=REGISTRY SSS FUL L7 AND L3
 L11 STR



NODE ATTRIBUTES:

CONNECT IS E2 RC AT 9
 DEFAULT MLEVEL IS ATOM
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 DEFAULT ECLEVEL IS LIMITED
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GRAPH ATTRIBUTES:

RSPEC I
 NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

L13 40 SEA FILE=REGISTRY SUB=L9 SSS FUL L11

100.0% PROCESSED 461 ITERATIONS
 SEARCH TIME: 00.00.01

40 ANSWERS

=> file zcaplus

FILE 'ZCAPLUS' ENTERED AT 11:15:28 ON 27 AUG 2002

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L48 ANSWER 1 OF 16 ZCAPLUS COPYRIGHT 2002 ACS

2002:220515 Document No. 136:247398 Etherification method for producing benzyl ether derivatives of 2-butene-1,4-diols.

Krishnamurti, Ramesh; Wang, Qi; Smolka, Thomas F. (Occidental Chemical Corporation, USA; Stephens, Dinah, H.). PCT Int. Appl. WO 2002022537 A2 20020321, 19 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-GB4036 20010910. PRIORITY: US 2000-PV231790 20000911.

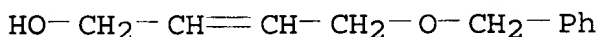
AB A method for producing benzyl ethers of 2-butene-1,4-diols, useful as **polymer stabilizers** (no data), comprises reacting 2-butene-1,4-diols (e.g., 2-butene-1,4-diol) with benzyl chlorides (e.g., benzyl chloride) in the presence of an alkali (e.g., sodium hydroxide) or alk. earth metal hydroxide or carbonate, optionally in the presence of a phase-transfer catalyst (e.g., benzyltriethylammonium chloride) to produce mono- and/or di-benzyl ethers of 2-butene-1,4-diols [e.g., 1,4-bis(benzyloxy)-2-butene] and recovering at least a portion of at least one such benzene deriv.

IT 80885-30-9P

(etherification method for producing benzyl ether derivs. of 2-butene-1,4-diols)

RN 80885-30-9 ZCAPLUS

CN 2-Buten-1-ol, 4-(phenylmethoxy)- (9CI) (CA INDEX NAME)



IC ICM C07C041-00

CC 25-9 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 37, 45

IT 70677-94-0P, 1,4-Bis(benzyloxy)-2-butene 80885-30-9P

(etherification method for producing benzyl ether derivs. of 2-butene-1,4-diols)

L48 . ANSWER 2 OF 16 ZCAPLUS COPYRIGHT 2002 ACS

2001:809663 Document No. 136:102461 **Stability**, Reactivity, Solution, and Solid-State Structure of Halomethylzinc Alkoxides. Charette, Andre B.; Molinaro, Carmela; Brochu, Christian (Departement de Chimie, Universite de Montreal, Montreal, QC, H3C 3J7, Can.). Journal of the American Chemical Society, 123(49), 12160-12167 (English) 2001. CODEN: JACSAT. ISSN: 0002-7863. Publisher: American Chemical Society.

AB The development of a Lewis acid-catalyzed cyclopropanation of allylic alcs. with bis(iodomethyl)zinc is reported. Iodomethylzinc alkoxides (e.g., chloro- and iodomethyl zinc 4-methoxybenzyloxy compds.) can be formed by treatment of an alc. with bis(iodomethyl)zinc, and their crystal structures solved. These species are not prone to undergo cyclopropanation at low temp., but the addn. of a Lewis acid in catalytic amts. induces the cyclopropanation reaction. Thus, CH₂I₂ and Et₂Zn were stirred and added to cinnamyl alc. in the presence of TiCl₄, to give the cyclopropanation product, trans-(3-phenylcyclopropyl)methanol, in %90 yield. The Lewis acid-catalyzed pathway significantly overwhelms the uncatalyzed one. The prepn. and **stability** of halomethyl zinc alkoxides in soln., their aggregation state in soln., and solid-state structures are discussed. Furthermore, the competition reaction between the inter- vs. intramol. cyclopropanation is studied. Finally, the possible activation pathways to explain the Lewis acid activation of halomethylzinc alkoxides is discussed.

IT 81028-03-7

(Lewis acid-catalyzed cyclopropanation of allylic alcs. with bis(halomethyl)zinc)

RN 81028-03-7 ZCAPLUS

CN 2-Buten-1-ol, 4-(phenylmethoxy)-, (2Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



CC 29-9 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 22, 75

IT Metal alkoxides

(**stability**, reactivity, soln., and solid-state structure of halomethylzinc alkoxides)

IT 60-12-8, Phenethyl alcohol 67-64-1, Acetone, reactions 75-11-6, Diiodomethane 100-44-7, Benzyl chloride, reactions 105-13-5, 4-Methoxybenzyl alcohol 122-97-4, 3-Phenyl-1-propanol 556-82-1 557-20-0, Diethyl zinc 928-95-0 1576-95-0 4845-04-9, 1-Cyclohexene-1-methanol 36004-04-3 55131-20-9 75553-23-0 81028-03-7 87770-83-0 388568-84-1

(Lewis acid-catalyzed cyclopropanation of allylic alcs. with bis(halomethyl)zinc)

L48 ANSWER 3 OF 16 ZCAPLUS COPYRIGHT 2002 ACS

2001:544578 Document No. 135:272544 One-pot oxidation and wittig olefination of alcohols using o-iodoxybenzoic acid and **stable** wittig ylide. Maiti, Arup; Yadav, J. S. (Organic Division, Indian Institute of Chemical Technology, Hyderabad, 500007, India). Synthetic Communications, 31(10), 1499-1506 (English) 2001. CODEN: SYNCAV. ISSN: 0039-7911. Publisher: Marcel Dekker, Inc..

AB Benzylic, allylic, and propargylic alcs., as well as diols, can be oxidized with o-iodoxybenzoic acid (IBX) in the presence of **stabilized** Wittig ylide to generate .alpha.,.beta.-unsatd. ester in one pot. This is useful when the intermediate aldehydes are unstable and difficult to isolate. For example, to a soln. of benzenemethanol in dimethylsulfoxide was added a mixt. of (triphenylphosphoranylidene)acid Et ester and 2-iodoxybenzoic acid. The yield of Et cinnamate thus prepd. was 98%.

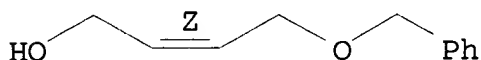
IT 81028-03-7

(prepn. of .alpha.,.beta.-unsatd. esters by one-pot oxidn. and Wittig olefination of alcs. using iodoxybenzoic acid and (triphenylphosphoranylidene)acetate (Wittig ylide))

RN 81028-03-7 ZCAPLUS

CN 2-Buten-1-ol, 4-(phenylmethoxy)-, (2Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



CC 21-2 (General Organic Chemistry)

IT 100-51-6, Benzenemethanol, reactions 106-24-1 107-19-7,
2-Propyn-1-ol 107-21-1, 1,2-Ethanediol, reactions 504-63-2,
1,3-Propanediol 821-11-4 1099-45-2,
(Triphenylphosphoranylidene)acetic acid ethyl ester 4407-36-7
4541-14-4 20739-58-6, 2-Octyn-1-ol 64297-64-9, 2-Iodoxybenzoic acid 81028-03-7

(prepn. of .alpha.,.beta.-unsatd. esters by one-pot oxidn. and Wittig olefination of alcs. using iodoxybenzoic acid and (triphenylphosphoranylidene)acetate (Wittig ylide))

L48 ANSWER 4 OF 16 ZCAPLUS COPYRIGHT 2002 ACS

2001:508070 Document No. 135:93426 **Stabilization** of **polymers** after exposure to oxidation and article manufacture. Wang, Qi (USA). U.S. Pat. Appl. Publ. US 20010007884 A1 20010712, 9 pp., Cont.-in-part of U. S. Ser. No. 272,843. (English). CODEN: USXXCO. APPLICATION: US 2001-761625 20010117. PRIORITY: US 1999-272843 19990319.

AB Polyvinyl chloride, polyvinylidene chloride, polycarbonate, polyethylene, polypropylene, polyamide, polyimide, polyether, polyester, or polyvinyl acetate contg. .apprx.0.005-10 phr **stabilizer** are resistant to discoloring after exposure to

oxidn. PVC contg. 1.34 g **stabilizer** phthalan had initial yellowness value 17.5, after .gamma. radiation 31.9, and after aging 49.5, vs. 18.1, 50.2, and 75.5, resp., for a control without **stabilizer**.

IT 81028-03-7

(**stabilization** of **polymers** after exposure to oxidn.)

RN 81028-03-7 ZCAPLUS

CN 2-Buten-1-ol, 4-(phenylmethoxy)-, (2Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IC ICM C08K005-06

ICS C08K005-46

NCL 524083000

CC 37-6 (Plastics Manufacture and Processing)

ST discoloration prevention agents **polymer**; PVC phthalan **stabilizer**; polyvinylidene chloride yellowing prevention; polycarbonate yellowing prevention; polyethylene yellowing prevention; polypropylene yellowing prevention; polyamide yellowing prevention; polyimide yellowing prevention; polyether yellowing prevention; polyester yellowing prevention; polyvinyl acetate yellowing prevention

IT Antioxidants

Discoloration prevention agents

Yellowing prevention

(**stabilization** of **polymers** after exposure to oxidn.)

IT Polyamides, uses

Polycarbonates, uses

Polyesters, uses

Polyethers, uses

Polyimides, uses

Polyurethanes, uses

(**stabilization** of **polymers** after exposure to oxidn.)

IT 110-65-6, 2-Butyne-1,4-diol 332-77-4 496-14-0, Phthalan

589-29-7, 1,4-Benzenedimethanol 1606-85-5, 1,4-Bis(2-hydroxy

ethoxy)-2-butyne 2568-24-3 5417-32-3 10192-64-0 21285-46-1

67461-24-9 68972-96-3 81028-03-7

(**stabilization** of **polymers** after exposure to oxidn.)

IT 9002-85-1, Poly(vinylidene chloride) 9002-86-2, Poly(vinyl chloride) 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-20-7, Poly(vinyl acetate)

(**stabilization** of **polymers** after exposure to oxidn.)

L48 ANSWER 5 OF 16 ZCAPLUS COPYRIGHT 2002 ACS

2001:155197 Document No. 134:281064 Regioselective synthesis of ^{13}C -labeled 2-deoxyribonolactones. Hayes, M. P.; Hatala, P. J.; Sherer, B. A.; Tong, X.; Zanatta, N.; Borer, P. N.; Kallmerten, J. (Department of Chemistry, 1-014 Center for Science and Technology, Syracuse University, Syracuse, NY, 13244-4100, USA). Tetrahedron, 57(8), 1515-1524 (English) 2001. CODEN: TETRAB. ISSN: 0040-4020. OTHER SOURCES: CASREACT 134:281064. Publisher: Elsevier Science Ltd..

AB Syntheses of the five regioselectively ^{13}C -labeled 5-O-benzyl-2-deoxyribonolactones are described. ^{13}C -Labeled deoxyribonolactones were prepd. by addn. of KCN to epoxides and subsequent lactonization of the resulting nitriles. These mixts. are the pivotal intermediates in the prepn. of 'population labeled' ^{13}C -labeled nucleoside phosphoramidites for solid-phase oligonucleotide synthesis.

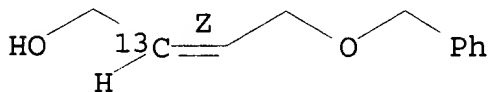
IT 415706-08-0 332865-87-9P 332865-92-6P
332866-00-9P

(regioselective synthesis of ^{13}C -labeled 2-deoxyribonolactones as synthons for solid phase oligonucleotide synthesis)

RN 415706-08-0 ZCAPLUS

CN 2-Buten-1-ol-2- ^{13}C , 4-(phenylmethoxy)-, (2Z)- (9CI) (CA INDEX NAME)

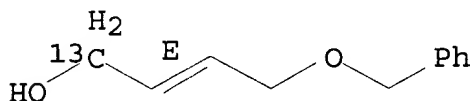
Double bond geometry as shown.



RN 332865-87-9 ZCAPLUS

CN 2-Buten-1-ol-1- ^{13}C , 4-(phenylmethoxy)-, (2E)- (9CI) (CA INDEX NAME)

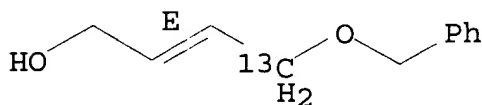
Double bond geometry as shown.



RN 332865-92-6 ZCAPLUS

CN 2-Buten-1-ol-4- ^{13}C , 4-(phenylmethoxy)-, (2E)- (9CI) (CA INDEX NAME)

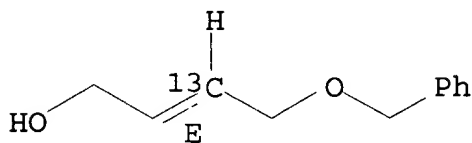
Double bond geometry as shown.



RN 332866-00-9 ZCAPLUS

CN 2-Buten-1-ol-3-¹³C, 4-(phenylmethoxy)-, (2E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



CC 33-9 (Carbohydrates)

Section cross-reference(s): 6

IT 415706-03-5 **415706-08-0** 415710-41-7 86633-16-1P
 114694-40-5P 332865-86-8P **332865-87-9P** 332865-89-1P
 332865-91-5P **332865-92-6P** 332865-94-8P 332865-99-3P
332866-00-9P 332866-01-0P 332866-04-3P 332875-18-0P
 332875-19-1P

(regioselective synthesis of ¹³C-labeled 2-deoxyribonolactones as synthons for solid phase oligonucleotide synthesis)

L48 ANSWER 6 OF 16 ZCAPLUS COPYRIGHT 2002 ACS

2000:695906 Document No. 134:17351 **Polymer**-supported Ti(IV) and Mn(III) asymmetric alkene epoxidation catalysts. Sherrington, D. C.; Karjalainen, J. K.; Canali, L.; Deleuze, H.; Hormi, O. E. O. (Dept. of Pure and Applied Chemistry, University of Strathclyde, Glasgow, UK). Macromolecular Symposia, 156(IUPAC 8th International Symposium on Macromolecule-Metal Complexes (MMC-8 Tokyo), 1999), 125-136 (English) 2000. CODEN: MSYMEC. ISSN: 1022-1360. OTHER SOURCES: CASREACT 134:17351. Publisher: Wiley-VCH Verlag GmbH.

AB Asym. epoxidn. of cis- and trans-allylic and homoallylic alcs. was catalyzed by branched poly(octamethylene-L-(+)-tartrate) and Ti(OiPr)₄. Also, Mn(III) macromol. chiral salen complexes operated as catalysts for epoxidn. of alkenes.

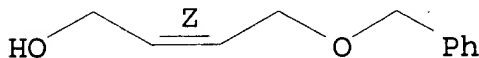
IT **81028-03-7**

(asym. alkene epoxidn. catalyzed by **polymer**-supported Ti(IV) and Mn(III))

RN 81028-03-7 ZCAPLUS

CN 2-Buten-1-ol, 4-(phenylmethoxy)-, (2Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



CC 27-2 (Heterocyclic Compounds (One Hetero Atom))

ST alkene asym epoxidn **polymer** supported catalyst

IT Alkenes, reactions

(asym. alkene epoxidn. catalyzed by **polymer**-supported Ti(IV) and Mn(III))

IT Epoxidation

Epoxidation catalysts

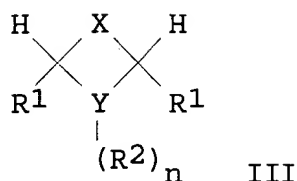
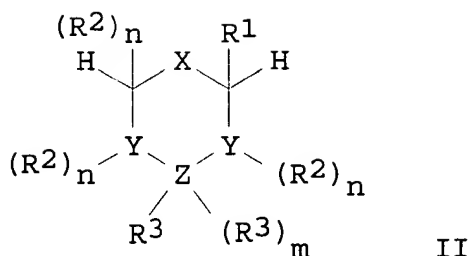
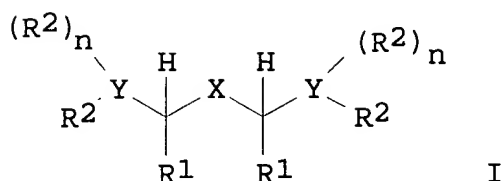
(stereoselective; asym. alkene epoxidn. catalyzed by
polymer-supported Ti(IV) and Mn(III))

- IT 546-68-9, Titanium tetraisopropoxide 135620-04-1 310405-22-2D,
polymer-supported 310405-23-3D, **polymer**
 -supported 310405-24-4D, **polymer**-supported
 (asym. alkene epoxidn. catalyzed by **polymer**-supported
 Ti(IV) and Mn(III))
- IT 627-27-0, 3-Buten-1-ol 763-89-3 771-98-2, 1-Phenyl-1-cyclohexene
 928-94-9 928-95-0 928-96-1 928-97-2 1576-95-0 4407-36-7
 75039-84-8 **81028-03-7**
 (asym. alkene epoxidn. catalyzed by **polymer**-supported
 Ti(IV) and Mn(III))
- IT 5775-23-5P 17540-04-4P 78513-07-2P 89321-71-1P 94992-76-4P
 95404-59-4P 101976-99-2P 104196-23-8P 106034-58-6P
 118759-60-7P 118759-61-8P 255709-02-5P
 (asym. alkene epoxidn. catalyzed by **polymer**-supported
 Ti(IV) and Mn(III))
- IT 73784-95-9, uses
 (**copolymer**; asym. alkene epoxidn. catalyzed by
polymer-supported Ti(IV) and Mn(III))

L48 ANSWER 7 OF 16 ZCAPLUS COPYRIGHT 2002 ACS

2000:688304 Document No. 133:267624 **Stabilization** and
 discoloration prevention of **polymers** after exposure to
 oxidation and antioxidants therefor. ~~Wang, Qi~~ (Occidental Chemical
 Corporation, USA; Stephens, Dinah). PCT Int. Appl. WO 2000056812 A1
 20000928, 37 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA,
 BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB,
 GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT,
 RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN,
 YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ,
 CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU,
 MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2.
 APPLICATION: WO 2000-GB247 20000128. PRIORITY: US 1999-272843
19990319.

GI



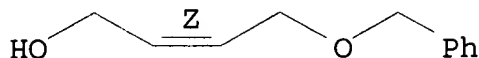
AB Poly(vinyl chloride), poly(vinylidene chloride), polycarbonates, polyethylene, polypropylene, polyamides, polyimides, polyethers, polyesters, or poly(vinyl acetate) contg. .apprx.0.005-10 phr of a **stabilizer** I, II, or III, where Z is C, P, Sn, Si, or B; X is -R₁C:CR₁-, ethynyl, (un)substituted benzene, pyridine, pyrimidine, triazine, furan, pyrrole, thiophene, or naphthalene ring; each Y is independently O, S, or N; each R is independently H, C₁-24-alkyl, C₆-24-aryl, C₇-24-aralkyl; each R₁ is independently R, OR, RCO, ROCO, ROCO₂, PR₂, P(OR)₂, PR(OR), NR₂, R₂NCO, R₂NCO₂, SR, halogen, or two R₁ groups can form a ring; each R₂ is independently R, RCO, ROCO, P(OR)₂, Sn(R)_q(OR)_{3-q}, SnR_q(OCOR)_{3-q}, Si(R)_q(OR)_{3-q}, BR_q(OR)_{2-q}, or two R₂ groups can form a ring; each R₃ is independently R, RCO, ROCO, ROCO₂, OR, SR, NR₂, OPR₂, or OP(OR)₂; m is 0 when Z is P or B and 1 when Z is Sn, Si, or C; n is 0 when Y is O or S and 1 when Y is N; p is 0-4; and q is 0-3 for the tin **stabilizers** and 0-2 for the boron **stabilizers**, with the proviso that in I, when X = -CH:CH-, Y = O and R₂ = H, at least one of the R₁ is not H; and in II, when X = -R₁C:CR₁-, Y = O and Z = C, then at least one of the R₃ groups on Z is not H. Thus, a plaque from a compn. comprising PVC 150.00, stearic acid 0.30, Mark 152S 0.23, dioctyl phthalate 97.50, Drapex 6.8 15.00, and phthalan 1.34 g was irradiated with 50 kGy .gamma.-rays, and aged 48 h at 50.degree., giving yellowness 17.5 initially, 31.9 after radiation, and 49.5 after aging, compared with 18.1, 50.2, and 75.5, resp., without phthalan.

IT 81028-03-7, cis-4-Benzoyloxy-2-buten-1-ol
(**stabilization** and discoloration prevention of
polymers after exposure to oxidn. and antioxidants
therefor)

RN 81028-03-7 ZCAPLUS

CN 2-Buten-1-ol, 4-(phenylmethoxy)-, (2Z)- (9CI) (CA INDEX NAME)

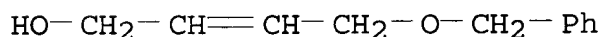
Double bond geometry as shown.



- IC ICM C08K005-00
ICS C08K005-053; C08K005-15; C08K005-06
- CC 37-6 (Plastics Manufacture and Processing)
- ST antioxidant yellowing prevention **polymer**; PVC phthalan
antioxidant gamma radiation; polyolefin antioxidant yellowing
prevention; vinyl compd **polymer** antioxidant yellowing
prevention; polycarbonate antioxidant yellowing prevention;
polyurethane antioxidant yellowing prevention; polyamide antioxidant
yellowing prevention; polyimide antioxidant yellowing prevention;
polyether antioxidant yellowing prevention; polyester antioxidant
yellowing prevention
- IT Yellowing prevention
Yellowing prevention
(agents; **stabilization** and discoloration prevention of
polymers after exposure to oxidn. and antioxidants
therefor)
- IT Antioxidants
(**stabilization** and discoloration prevention of
polymers after exposure to oxidn. and antioxidants
therefor)
- IT Polyamides, uses
Polycarbonates, uses
Polyesters, uses
Polyethers, uses
Polyimides, uses
Polyurethanes, uses
(**stabilization** and discoloration prevention of
polymers after exposure to oxidn. and antioxidants
therefor)
- IT Discoloration prevention agents
Discoloration prevention agents
(yellowing; **stabilization** and discoloration prevention
of **polymers** after exposure to oxidn. and antioxidants
therefor)
- IT 110-64-5, 2-Butene-1,4-diol 110-65-6, 2-Butyne-1,4-diol
332-77-4, 2,5-Dimethoxy-2,5-dihydrofuran 496-14-0, Phthalan
589-29-7, 1,4-Benzenedimethanol 1606-85-5, 1,4-Bis(2-
hydroxyethoxy)-2-butyne 2568-24-3, 4,7-Dihydro-2-phenyl-1,3-
dioxepin 10192-64-0 21285-46-1 67461-24-9 68972-96-3,
cis-1,4-Bisbenzyloxy-2-butene 70677-94-0 **81028-03-7**,
cis-4-Benzyloxy-2-buten-1-ol
(**stabilization** and discoloration prevention of
polymers after exposure to oxidn. and antioxidants
therefor)
- IT 9002-85-1, Poly(vinylidene chloride) 9002-86-2, PVC 9002-88-4,

Polyethylene 9003-07-0, Polypropylene 9003-20-7, Poly(vinyl acetate)
(**stabilization** and discoloration prevention of
polymers after exposure to oxidn. and antioxidants
therefor)

- L48 ANSWER 8 OF 16 ZCAPLUS COPYRIGHT 2002 ACS
1999:516268 Document No. 131:257029 Deprotection of tetrahydropyranyl
ethers with montmorillonite K-10 clay in methanol. Taniguchi,
Takahiko; Kadota, Kohei; ElAzab, Adel S.; Ogasawara, Kunio
(Pharmaceutical Institute, Tohoku Univ., Sendai, 980, Japan).
Synlett (8), 1247-1248 (English) 1999. CODEN: SYNLES. ISSN:
0936-5214. OTHER SOURCES: CASREACT 131:257029. Publisher: Georg
Thieme Verlag.
- AB A variety of tetrahydropyranyl (THP) ethers are cleaved by
montmorillonite K-10 clay in MeOH at room temp. to give the
corresponding alcs. THP ethers carrying epoxy, MeOCH₂O, Me₃CPh₂SiO,
AcO, and PhCO₂ functionalities are **stable** under the
conditions, while ethers carrying ketal, Me₃CMe₂SiO, and Cl₃CC(:NH)O
functionalities are unstable.
- IT **80885-30-9P**
(deprotection of hydropyranyl ethers with montmorillonite K-10 in
methanol)
- RN 80885-30-9 ZCAPLUS
CN 2-Buten-1-ol, 4-(phenylmethoxy) - (9CI) (CA INDEX NAME)



- CC 21-2 (General Organic Chemistry)
- IT 57-88-5P, Cholest-5-en-3-ol (3.beta.)-, preparation 89-78-1P
98-00-0P, 2-Furanmethanol 100-02-7P, 4-Nitrophenol, preparation
100-51-6P, Benzyl alcohol, preparation 108-95-2P, Phenol,
preparation 111-70-6P, 1-Heptanol 150-76-5P, 4-Methoxyphenol
768-95-6P, Tricyclo[3.3.1.1^{3,7}]decan-1-ol 1471-15-4P 4541-14-4P
6318-30-5P 13482-22-9P 32651-37-9P 35435-68-8P 51326-51-3P
80885-30-9P 87184-99-4P 95672-91-6P 101992-89-6P
130372-07-5P 244298-24-6P 244298-25-7P 244298-46-2P
244298-47-3P 244781-68-8P
(deprotection of hydropyranyl ethers with montmorillonite K-10 in
methanol)

- L48 ANSWER 9 OF 16 ZCAPLUS COPYRIGHT 2002 ACS
1998:482469 Document No. 129:189177 Heterogeneous asymmetric
epoxidation of cis-allylic alcohols: use of **polymer**
-supported Ti(IV)-catalyst. Karjalainen, Jaana K.; Hormi, Osmo E.
O.; Sherrington, David C. (Department of Chemistry, University of
Oulu, Oulu, FIN-90570, Finland). Tetrahedron: Asymmetry, 9(12),
2019-2022 (English) 1998. CODEN: TASYE3. ISSN: 0957-4166. OTHER
SOURCES: CASREACT 129:189177. Publisher: Elsevier Science Ltd..
- AB Heterogeneous asym. epoxidn. of cis-allylic alcs. with titanium

isopropoxide and tert-Bu hydroperoxide has been achieved using a branched/**crosslinked** poly(tartrate ester) ligand. The enantioselectivities and chem. yields obtained are at least comparable to low mol. wt. tartrate ligands.

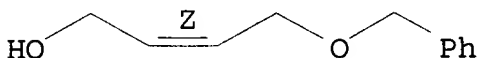
IT 81028-03-7

(asym. epoxidn. of cis-allylic alcs. catalyzed by **polymer**-supported Ti(IV) catalyst)

RN 81028-03-7 ZCAPLUS

CN 2-Buten-1-ol, 4-(phenylmethoxy)-, (2Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



CC 27-2 (Heterocyclic Compounds (One Hetero Atom))

ST **polymer** supported titanium catalyst asym epoxidn; allylic alc asym epoxidn titanium catalyst

IT Alcohols, reactions

(allyl; asym. epoxidn. of cis-allylic alcs. catalyzed by **polymer**-supported Ti(IV) catalyst)

IT **Polymer**-supported reagents

(asym. epoxidn. of cis-allylic alcs. catalyzed by **polymer**-supported Ti(IV) catalyst)

IT Epoxidation

Epoxidation catalysts

(stereoselective; asym. epoxidn. of cis-allylic alcs. catalyzed by **polymer**-supported Ti(IV) catalyst)

IT 546-68-9, Titanium tetraisopropoxide 73784-95-9, uses (asym. epoxidn. of cis-allylic alcs. catalyzed by **polymer**-supported Ti(IV) catalyst)

IT 928-94-9 1576-95-0 81028-03-7

(asym. epoxidn. of cis-allylic alcs. catalyzed by **polymer**-supported Ti(IV) catalyst)

IT 78513-07-2P 94992-76-4P 106034-58-6P

(asym. epoxidn. of cis-allylic alcs. catalyzed by **polymer**-supported Ti(IV) catalyst)

L48 ANSWER 10 OF 16 ZCAPLUS COPYRIGHT 2002 ACS

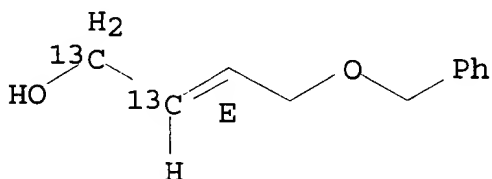
1995:871881 Document No. 124:87505 1-Deoxy-D-xylulose. Kennedy, Isaac A.; Hemscheidt, Thomas; Britten, James F.; Spenser, Ian D. (Dep. Chem., McMaster Univ., Hamilton, ON, L8S 4M1, Can.). Canadian Journal of Chemistry, 73(8), 1329-37 (English) 1995. CODEN: CJCHAG. ISSN: 0008-4042. Publisher: National Research Council of Canada.

AB 1-Deoxy-D-xylulose (1-deoxy-D-threopentulose) is a precursor of thiamin (Vitamin B1) and of pyridoxine (Vitamin B6) in bacteria. The synthesis of a [2,3-¹³C₂] bond-labeled sample of the compd., to be used for investigations of the biosynthesis of the two vitamins, is described. In aq. soln. 1-deoxy-D-xylulose exists mainly as the open chain ketone. In methanol soln. the compd. exists as a mixt. of the open chain ketone and the two corresponding epimeric

furanoses. In acid soln. the compd. yields a dimeric anhydride, di-.beta.-1-deoxy-D-xylulofuranose 2,3':3,2'-dianhydride, whose structure was established by X-ray crystallog.

IT 172510-18-8P
 (prepn. of carbon-13 labeled 1-deoxy-D-xylulose)
 RN 172510-18-8 ZCAPLUS
 CN 2-Buten-1-ol-1,2-13C2, 4-(phenylmethoxy)-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



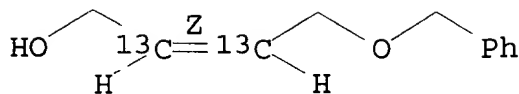
CC 33-2 (Carbohydrates)
 IT 60299-43-6P 162284-34-6P 162284-35-7P 162287-12-9P
 172510-17-7P 172510-18-8P 172510-19-9P 172510-20-2P
 172510-21-3P 172510-22-4P 172510-23-5P 172510-24-6P
 172510-25-7P 172510-26-8P 172510-27-9P 172510-29-1P
 172510-30-4P 172588-95-3P 172588-96-4P 172588-97-5P
 172588-98-6P 172588-99-7P
 (prepn. of carbon-13 labeled 1-deoxy-D-xylulose)

L48 ANSWER 11 OF 16 ZCAPLUS COPYRIGHT 2002 ACS
 1995:833636 Document No. 123:228823 [2,3-13C2]-4-Hydroxy-L-threonine.
 Wolf, Eckardt; Spenser, Ian D. (Department of Chemistry, McMaster University, Hamilton, ON, L8S 4M1, Can.). J. Org. Chem., 60(21), 6937-40 (English) 1995. CODEN: JOCEAH. ISSN: 0022-3263. OTHER SOURCES: CASREACT 123:228823.

AB An eight-step synthesis of [2,3-13C2]-4-hydroxy-L-threonine ([2,3-13C2]-(2S,3S)-2-amino-3,4-dihydroxybutanoic acid) is described, starting from [1,2-13C2]acetylene, in an overall yield of 13%. Since a key intermediate of the synthetic sequence, 4-(benzyloxy)-(Z)-but-2-en-1-ol, is available com., the method furnishes a convenient four-step synthesis of nonenriched 4-hydroxy-L-threonine, in an overall yield of 27%.

IT 168292-05-5P
 (asym. synthesis of carbon-13 labeled hydroxythreonine from labeled acetylene)
 RN 168292-05-5 ZCAPLUS
 CN 2-Buten-1-ol-2,3-13C2, 4-(phenylmethoxy)-, (Z)- (9CI) (CA INDEX NAME)

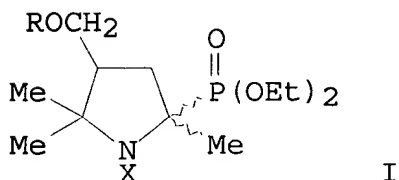
Double bond geometry as shown.



CC 34-2 (Amino Acids, Peptides, and Proteins)
 IT 168292-02-2P, 2-Butyne-1,4-diol-2,3-¹³C₂ 168292-03-3P
 168292-04-4P **168292-05-5P** 168292-06-6P 168292-07-7P
 168292-08-8P
 (asym. synthesis of carbon-13 labeled hydroxythreonine from
 labeled acetylene)

L48 ANSWER 12 OF 16 ZCAPLUS COPYRIGHT 2002 ACS
 1993:517385 Document No. 119:117385 .beta.-Phosphorylated
 five-membered ring nitroxides: synthesis and ESR study of
 2-phosphonyl-4-(hydroxymethyl)pyrrolidine aminoxyl radicals. Stipa,
 Pierluigi; Finet, Jean Pierre; Le Moigne, Francois; Tordo, Paul
 (Lab. Struct. React. Espèces Paramagn., Univ. Provence, Marseille,
 13397, Fr.). J. Org. Chem., 58(16), 4465-8 (English) 1993. CODEN:
 JOCEAH. ISSN: 0022-3263. OTHER SOURCES: CASREACT 119:117385.

GI



I

AB Intramol. aminomercuration of the alkenyl .alpha.-amino phosphonate
 PhCH₂OCH₂CH(CMe:CH₂)CH₂CMe(NH₂)P(O)(OEt)₂ followed by sodium
 borohydride redn. leads to the di-Et [4-(benzyloxymethyl)-2,5,5-
 trimethylpyrrolidinyl]phosphonate I (R = PhCH₂, X = H). Oxidn. of
 the phosphonates I (R = H, PhCH₂; X = H) with 3-chloroperbenzoic
 acid led to the **stable** 2-phosphonylpyrrolidinyl aminoxyl
 radicals I (same R; X = O.bul.) bearing a 4-
 (hydroxymethyl)substituent.

IT 81028-03-7

(oxidn. of)

RN 81028-03-7 ZCAPLUS

CN 2-Buten-1-ol, 4-(phenylmethoxy)-, (2Z)- (9CI) (CA INDEX NAME)

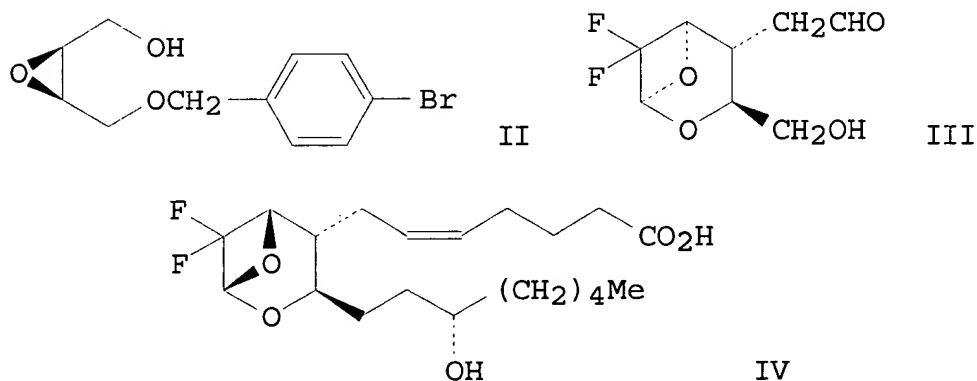
Double bond geometry as shown.



CC 29-7 (Organometallic and Organometalloidal Compounds)
 Section cross-reference(s): 22
 IT 81028-03-7
 (oxidn. of)

L48 ANSWER 13 OF 16 ZCAPLUS COPYRIGHT 2002 ACS
 1992:612188 Document No. 117:212188 Total synthesis of
 (+)-10,10-difluorothromboxane A2 and its 9,11 and 15 stereoisomers.
 Witkowski, Stanislaw; Rao, Y. Koteswar; Premchandran, Ramiya H.;
 Halushka, Perry V.; Fried, Josef (Dep. Chem., Univ. Chicago,
 Chicago, IL, 60637, USA). J. Am. Chem. Soc., 114(22), 8464-72
 (English) 1992. CODEN: JACSAT. ISSN: 0002-7863.

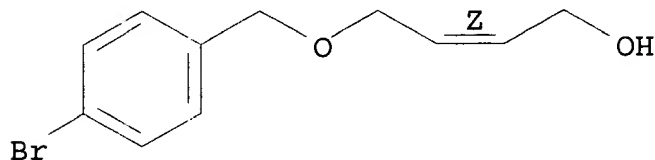
GI



AB An efficient total synthesis of the biol. highly active,
stable (+)-10,10-difluorothromboxane A2 (I), possessing the
 abs. configuration of TXA2, was achieved from the chiral synthon II.
 The key intermediate, the aldehyde III is prepd. in 16 steps with a
 total yield of 8.8%, which compares with 1.95% in 14 steps by a
 previously reported chem.-enzymic route. Diastereoselectivity is
 high in all but one of the steps, the Reformatskii reaction.
 However, both epimers obtained in this reaction have been converted
 efficiently to III. The synthesis of the 9.beta.,11.beta.
 diastereomer IV is also described. As predicted, this geometrically
 equiv. isomer showed significant binding to the platelet receptor at
 $K_d = 240$ nM. It is, however, only a weak agonist causing
 aggregation of washed human platelets at 0.7% of the activity of I.
 These data are rationalized in terms of an obligatory H bond between
 the 9.alpha.,11.alpha.-oxetane O of I and its receptor to achieve

full biol. activity.
 IT 108212-54-0
 (asym. epoxidn. of)
 RN 108212-54-0 ZCAPLUS
 CN 2-Buten-1-ol, 4-[(4-bromophenyl)methoxy]-, (Z)- (9CI) (CA INDEX NAME)

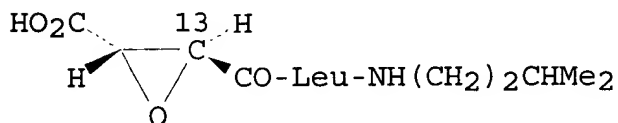
Double bond geometry as shown.



CC 26-3 (Biomolecules and Their Synthetic Analogs)
 IT 108212-54-0
 (asym. epoxidn. of)

L48 ANSWER 14 OF 16 ZCAPLUS COPYRIGHT 2002 ACS
 1988:473876 Document No. 109:73876 Irreversible inhibition of papain by epoxysuccinyl peptides. Carbon-13 NMR characterization of the site of alkylation. Yabe, Yuichiro; Guillaume, Dominique; Rich, Daniel H. (Sch. Pharm., Univ. Wisconsin-Madison, Madison, WI, 53706, USA). J. Am. Chem. Soc., 110(12), 4043-4 (English) 1988. CODEN: JACSAT. ISSN: 0002-7863. OTHER SOURCES: CASREACT 109:73876.

GI



I

AB E-64 and its analogs rapidly inhibit most cysteine proteinases. Although this class of inhibitor is thought to alkylate the sulfhydryl group in the active site cysteine (Cys-25), it has not been known whether the S reacts at C-2 or C-3 of the epoxysuccinyl group in the inhibitor. In order to det. the site of alkylation by cysteine proteinases, the chiral, regiospecifically labeled ^{13}C deriv., EP-475 (I), has been synthesized, and ^{13}C NMR studies of the reaction of I with papain have been done. The ^{13}C NMR spectrum of the complex displayed a new broad signal (line width = 35 Hz) at 76.5 ppm, but no peak near 50 ppm could be detected. A high resolu. difference spectrum, obtained by reaction of activated papain with labeled I and unlabeled EP-475, clearly showed the presence only of the 76.5 resonance. These data establish that the active site thiol group in papain selectively attacks the C-3 carbon of the epoxysuccinyl group in EP-475.

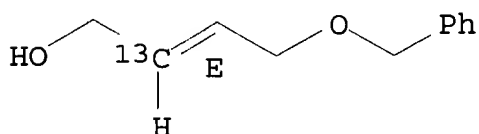
IT 114694-39-2P

(prepn. and asym. epoxidn. of)

RN 114694-39-2 ZCAPLUS

CN 2-Buten-1-ol-2-¹³C, 4-(phenylmethoxy)-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



CC 34-2 (Amino Acids, Peptides, and Proteins)

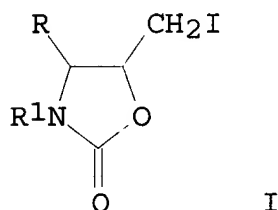
IT 114694-39-2P

(prepn. and asym. epoxidn. of)

L48 ANSWER 15 OF 16 ZCAPLUS COPYRIGHT 2002 ACS

1986:108975 Document No. 104:108975 Oxazolidin-2-ones from allylic amines by means of iodine and carbonate anion on **polymeric** support. A convenient synthesis of (.+-.)-propranolol. Cardillo, Giuliana; Orena, Mario; Sandri, Sergio (Cent. Fis. Macromol., Ist. Chim. "G. Ciamician", Bologna, 40126, Italy). J. Org. Chem., 51(5), 713-17 (English) 1986. CODEN: JOCEAH. ISSN: 0022-3263. OTHER SOURCES: CASREACT 104:108975.

GI

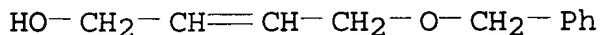


AB A new **polymeric** reagent was obtained by adsorbing iodine on the **resin** Amberlyst A 26 in the CO3²⁻ form. By treating RCH₂CH(NHR₁)CH:CH₂.HCl (R = Et, PhCH₂O, HO; R₁ = H, PhCH₂) or RCH₂CH(NH₂)CH:CH₂ (R = tetrahydro-2H-pyran-2-yloxy) with this **polymeric** reagent, (iodomethyl)oxazolidinones I were obtained in very good yield. Iodine displacement, base hydrolysis, and acetylation gave RCH₂CH(NHAc)CH(OAc)CH₂OAc, while deiodination followed by base hydrolysis and acetylation afforded RCH₂CH(NHAc)CHMeOAc, resp. The potential utility of the new **polymeric** reagent was demonstrated by a short, effective synthesis of (.+-.)-propranolol.

IT 80885-30-9

(addn. reaction with trichloroacetonitrile and thermal rearrangement of)

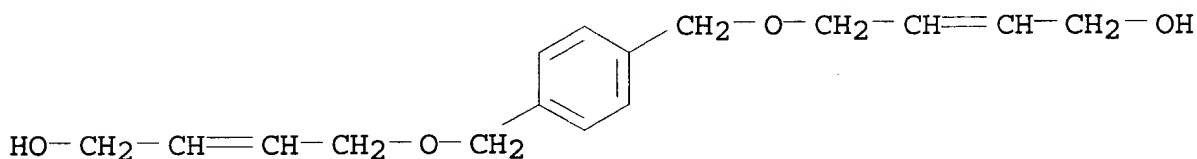
RN 80885-30-9 ZCAPLUS
CN 2-Buten-1-ol, 4-(phenylmethoxy)- (9CI) (CA INDEX NAME)



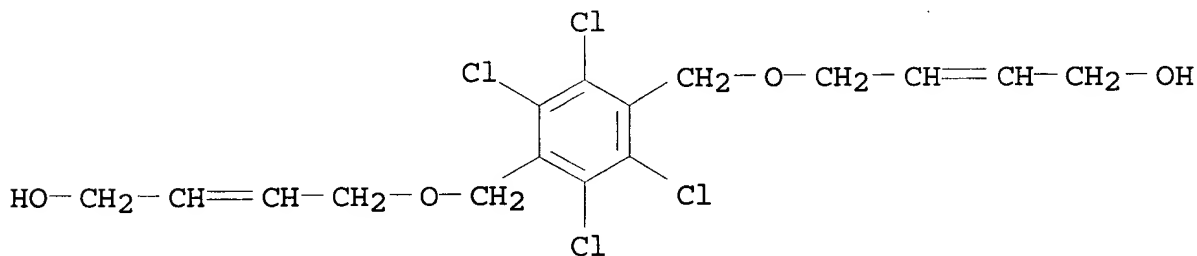
- CC 23-7 (Aliphatic Compounds)
Section cross-reference(s): 28
- ST oxazolidinone iodomethyl; allyl amine cyclization carbonate iodine;
polymer support iodine carbonate; propranolol
allylisopropylamine conversion
- IT Iodination
(cyclization and, of allylic amines with iodine-carbonate anion
on **polymer** support)
- IT Cyclocondensation reaction
(iodination and, of allylic amines by iodine-carbonate anion on
polymeric support)
- IT **Polymer**-supported reagents
(iodine-carbonate anion on Amberlyst, for prepn. of
oxazolidinones from allylic amines)
- IT Alcohols, preparation
(amino, prepn. of, by reaction of allylic amines with
iodine-carbonate anion on **polymeric** support)
- IT 110-64-5 2305-21-7 80885-30-9
(addn. reaction with trichloroacetonitrile and thermal
rearrangement of)
- IT 99726-00-8P 99726-02-0P 99726-03-1P 99726-04-2P 99726-05-3P
99726-37-1P
(prepn. and reaction of, with iodine and carbonate anion on
polymeric support)
- IT 99726-39-3P
(prepn. and reaction of, with naphthol anion on **polymeric**
support)
- IT 13013-17-7P
(prepn. of, from allylisopropylamine by reaction with carbonate
anion-iodine on **polymeric** support)
- IT 99726-06-4
(reaction of, with iodine and carbonate anion on
polymeric support)
- L48 ANSWER 16 OF 16 ZCAPLUS COPYRIGHT 2002 ACS
1967:421550 Document No. 67:21550 Reaction of xylene dihalides with
diols. Slezak, Frank B.; Stallings, John P.; Bungs, Janis A.
(Diamond Alkali Co., Painesville, Ohio, USA). Ind. Eng. Chem. Prod.
Res. Dev., 4, 259-61 From: CZ 1966, (35), Abstr. No. 1113 (English)
1965. CODEN: IEPR66.
- AB Treatment of xylene dihalides with ethylene glycol, trimethylene
glycol (Ia), and 2-butene-1,4-diol gave a series of ether diols.
Those from 2,4,5,6-tetrachloro-m-xylene dichloride (I) and from
2,3,5,6-tetrachloro-p-xylene dichloride (II) were used for the
prepn. of fireproof polyesterstyrene copolymers. Thus,

.alpha.,.alpha.' - bis(3 - hydroxypropoxy) - p-xylene, b0.3-0.5 193-200.degree., n_{25D} 1.5178, yield 43%, was prepd. by heating p-xylylene dichloride with Ia and Na₂CO₃ 20 min. at 130-50.degree.. Similarly, .alpha.,.alpha.' - bis(4 - hydroxy - 2 - butenyloxy) - p-xylene, b0.1 110-13.degree., was prepd. from 2-butene-1,4-diol and 17.5 g. p-xylylene dichloride, yield 9.6 g. -. Also prepd. were 2,3,5,6-tetrachloro-p-xylenes: 31% .alpha.,.alpha.'(bis-2-hydroxyethoxy)-, m. 110.5-12.0.degree. (EtCOME) (diacetate m. 965-97.degree.) from II and ethylene glycol; 4% 1,6-bis(2 - hydroxyethoxymethyl - 2,3,5,6-tetrachlorophenyl)-2,5-dioxahexane, m. 170-4.degree. (EtCOME), diacetate m. 115.5-17.5.degree.. Also obtained was 99% .alpha.,.alpha.'-bis(4-hydroxy-2-butenyloxy)-p-xylylene, m. 99-105.degree., from II and 2-butene-1,4-diol. 2,4,5,6-Tetrachloro-m-xylenes prepd. were: 62% .alpha.,.alpha.'-bis(2-hydroxyethoxy)-, m. 100-2.degree. (EtCOME), from I and ethylene glycol; and 83% .alpha.,.alpha.'-bis(4-hydroxy-2-butenyloxy)-, m. 37-40.degree., from 2-butene-1,4-diol and I.

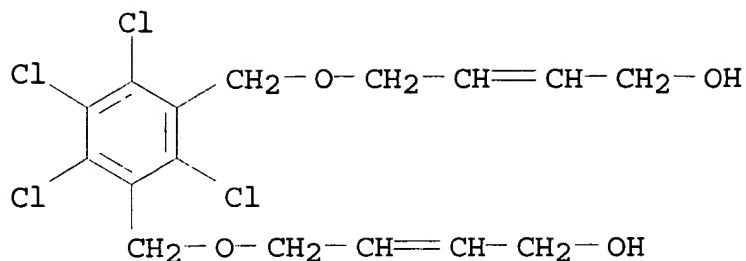
IT 15084-32-9P 15084-33-0P 15084-34-1P
(prepn. of)
RN 15084-32-9 ZCAPLUS
CN 2-Buten-1-ol, 4,4'-[p-phenylenebis(methyleneoxy)]di- (8CI) (CA INDEX NAME)



RN 15084-33-0 ZCAPLUS
CN 2-Buten-1-ol, 4,4'-[(2,3,5,6-tetrachloro-p-phenylene)bis(methyleneoxy)]di- (8CI) (CA INDEX NAME)



RN 15084-34-1 ZCAPLUS
CN 2-Buten-1-ol, 4,4'-[(2,4,5,6-tetrachloro-m-phenylene)bis(methyleneoxy)]di- (8CI) (CA INDEX NAME)



CC 25 (Noncondensed Aromatic Compounds)

IT 15084-26-1P 15084-27-2P 15084-28-3P 15084-29-4P 15084-30-7P
 15084-31-8P 15084-32-9P 15084-33-0P
 15084-34-1P

(prepn. of)

=> d l49 1-46 ti

L49 ANSWER 1 OF 46 ZCAPLUS COPYRIGHT 2002 ACS

TI The First Stereoselective Ficini-Claisen Rearrangement Using Chiral Ynamides

L49 ANSWER 2 OF 46 ZCAPLUS COPYRIGHT 2002 ACS

TI First Evidence for the Formation of a Geminal Dizinc Carbenoid: A Highly Stereoselective Synthesis of 1,2,3-Substituted Cyclopropanes

L49 ANSWER 3 OF 46 ZCAPLUS COPYRIGHT 2002 ACS

TI Evidence for the biosynthesis of squalene via the methylerythritol phosphate pathway in a Streptomyces sp. obtained from a marine sediment

L49 ANSWER 4 OF 46 ZCAPLUS COPYRIGHT 2002 ACS

TI First enantioselective non-biological synthesis of asymmetrized tris(hydroxymethyl)methane (THYM*) and bis(hydroxymethyl)acetaldehyde (BHYMA*)

L49 ANSWER 5 OF 46 ZCAPLUS COPYRIGHT 2002 ACS

TI Novel [2,3]-sigmatropic rearrangement for carbon-nitrogen bond formation

L49 ANSWER 6 OF 46 ZCAPLUS COPYRIGHT 2002 ACS

TI Studies directed toward the syntheses of amphidinolides: formal total synthesis of (-)-amphidinolide P

L49 ANSWER 7 OF 46 ZCAPLUS COPYRIGHT 2002 ACS

TI The asymmetric chelate-Claisen rearrangement as a key step in the syntheses of non-proteinogenic amino acids

L49 ANSWER 8 OF 46 ZCAPLUS COPYRIGHT 2002 ACS

TI Asymmetric epoxide cyclization route to the F-pyran fragment of the

altohyrtins and key aldol studies

- L49 ANSWER 9 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Studies toward the synthesis of dienophile unit of methyl sartortuoate
- L49 ANSWER 10 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Asymmetric cyclopropanation of allylic alcohols employing sulfonamide/Schiff base ligands
- L49 ANSWER 11 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Stereoselective route towards 2,5-disubstituted piperidine alkaloids. Synthesis of (+)-pseudoconhydrine and (.+.)-epi-pseudoconhydrine
- L49 ANSWER 12 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Construction of the Bicyclo[3.1.0]hexane Template of a Conformationally Locked Carbocyclic Adenosine via an Olefin Keto-Carbene Cycloaddition
- L49 ANSWER 13 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Synthesis of the B,C,D,E,F-ring fragment of pinnatoxins
- L49 ANSWER 14 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Enantioselective Cyclopropanation of Allylic Alcohols with Dioxaborolane Ligands: Scope and Synthetic Applications
- L49 ANSWER 15 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Highly Regioselective Thiocarbonylation of Allylic Alcohols with Thiols and Carbon Monoxide Catalyzed by Palladium Complexes: A New and Efficient Route to .beta.,.gamma.-Unsaturated Thioesters
- L49 ANSWER 16 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Process for preparation of chiral 3-aminopyrrolidine and analogous bicyclic compounds as intermediates for antibacterial agents
- L49 ANSWER 17 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Synthesis of (+)-homononactic acid via iodoetherification
- L49 ANSWER 18 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI A catalytic enantioselective reaction using a C2-symmetric disulfonamide as a chiral ligand: Simmons-Smith cyclopropanation of allylic alcohols by the Et₂Zn-CH₂I₂-disulfonamide system
- L49 ANSWER 19 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Regiochemical control of the ring opening of 1,2-epoxides by means of chelating processes. 10. Synthesis and ring opening reactions of mono- and difunctionalized cis and trans aliphatic oxirane systems
- L49 ANSWER 20 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Asymmetric Cyclopropanation Using New Chiral Auxiliaries Derived from D-Fructose

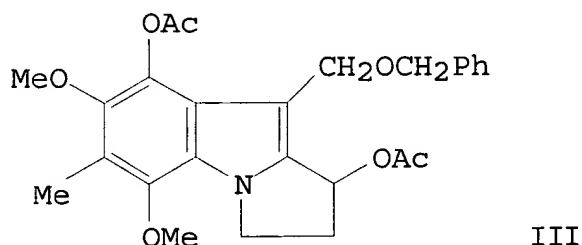
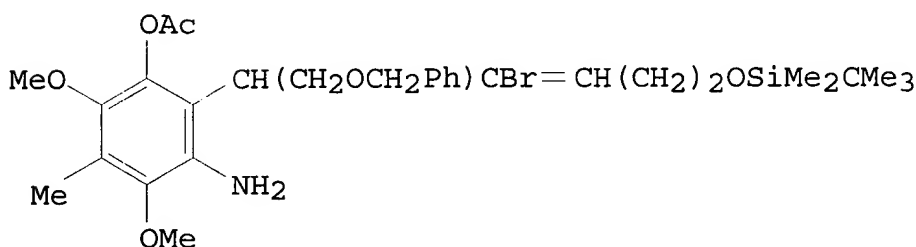
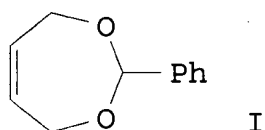
- L49 ANSWER 21 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI The asymmetric dihydroxylation cis-allylic and homoallylic alcohols
- L49 ANSWER 22 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Catalytic iron-mediated triene carbocyclizations: stereoselective five-membered ring forming carbocyclizations
- L49 ANSWER 23 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Synthesis of .beta.-hydroxyhomoserine, an intermediate of mugineic acid
- L49 ANSWER 24 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Thromboxane A2/endoperoxide receptor antagonists: 1,3-dioxane and 1,3-dioxolane analogs
- L49 ANSWER 25 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI An Access to erythro-Diols via Sharpless's Asymmetric Dihydroxylation Reaction
- L49 ANSWER 26 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Oxazole and imidazole derivatives as prostaglandin analogs and thromboxane receptor antagonists
- L49 ANSWER 27 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI A tellurium transposition route to allylic alcohols: overcoming some limitations of the Sharpless-Katsuki asymmetric epoxidation
- L49 ANSWER 28 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Regioselective nucleophilic ring opening of 2,3-aziridino alcohols
- L49 ANSWER 29 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Sphingolipids and glycerolipids. II. Syntheses of two pairs of enantiomeric C18-sphingosines and a palmitoyl analog of Gaucher spleen glucocerebroside
- L49 ANSWER 30 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI A catalytic enantioselective reaction using a C2-symmetric disulfonamide as a chiral ligand: cyclopropanation of allylic alcohols by the diethylzinc-diiodomethane-disulfonamide system
- L49 ANSWER 31 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI An enantiocontrolled synthesis of phytol by reiterative application of the chiral 3-hydroxyalkyne formation reaction
- L49 ANSWER 32 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Preparation of N-substituted acylamino acid amide derivatives as renin inhibitors
- L49 ANSWER 33 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Enantiodivergent route to the aromatic bisabolane sesquiterpenes via a chiral acetylene alcohol

- L49 ANSWER 34 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Asymmetric construction of optically active 3-hydroxyalkyne functionalities
- L49 ANSWER 35 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Preparation and testing of N-acylamino acid amides as renin inhibitors
- L49 ANSWER 36 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Conversion of 4-oxy-substituted crotonaldehyde into 1-protected (2R)-1,2,4-butanetriol: a new synthetic capacity of bakers' yeast
- L49 ANSWER 37 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Applications of intramolecular amidomercuration. 6. Selectivity in the amination of allylic alcohols via intramolecular amidomercuration
- L49 ANSWER 38 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Total synthesis of amphoteronolide B and amphotericin B. 1. Strategy and stereocontrolled construction of key building blocks
- L49 ANSWER 39 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Stereocontrolled construction of key building blocks for the total synthesis of amphoteronolide B and amphotericin B
- L49 ANSWER 40 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Factors affecting the regioselection of allylic imidate iodocyclization
- L49 ANSWER 41 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Enantioselective preparation of 3-substituted 4-pentenoic acids via the Claisen rearrangement
- L49 ANSWER 42 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Tandem electrocyclic-sigmatropic reaction of benzocyclobutenes. An expedient route to 4,4-disubstituted isochromanones
- L49 ANSWER 43 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Chirality inversion of the 1,3-glycol system and its application to the synthesis of the carbapenem intermediate
- L49 ANSWER 44 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Stereocontrolled synthesis of 1,3,5...(2n + 1) polyols
- L49 ANSWER 45 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Synthesis of saccharides and related polyhydroxylated natural products. 1. Simple alditols
- L49 ANSWER 46 OF 46 ZCAPLUS COPYRIGHT 2002 ACS
TI Factors affecting the endo:exo ratio in Diels-Alder reactions of cyclopentadiene

=> d 141 16 cbib abs hitstr hitrn

L41 ANSWER 16 OF 16 ZCAPLUS COPYRIGHT 2002 ACS
 1982:104020 Document No. 96:104020 A mercury mediated route to the
 mitosenes. Danishefsky, Samuel; Regan, John (Dep. Chem., Univ.
 Pittsburgh, Pittsburgh, PA, 15260, USA). Tetrahedron Lett., 22(40),
 3919-22 (English) 1981. CODEN: TELEAY. ISSN: 0040-4039.

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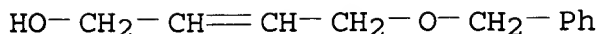
AB (E)-PhCH₂OCH₂CH:CBrCH(OH)CH₂CH₂OSiMe₂CMe₃, prepd. in 6 steps from
 the acetal I, was coupled with 3,2,4-Me(MeO)₂C₆H₂OH under Mitsunobu
 conditions to give 73% (E)-3,2,4-Me(MeO)₂C₆H₂OCH(CH₂CH₂OSiMe₂CMe₃)CBr:
 CHCH₂Ph, which underwent sequential Claisen rearrangement (PhNMe₂,
 193.degree., 75 min), acetylation (AcCl, Et₃N), nitration [Hg(OAc)₂,
 90% HNO₃, Ac₂O], and redn. (Zn, AcOH) to give the aniline II.
 Intramol. cyclocondensation of II [Hg(OAc)₂, THF, NaHCO₃], followed
 by silyl cleavage and intramol. cyclization [(EtOCON)₂, Ph₃P] gave
 mitosene III.

IT 80885-30-9P

(prepn. and oxidn. of)

RN 80885-30-9 ZCAPLUS

CN 2-Buten-1-ol, 4-(phenylmethoxy)- (9CI) (CA INDEX NAME)

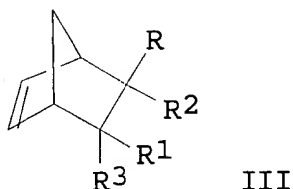


IT 80885-30-9P
(prepn. and oxidn. of)

=> d 142 45 cbib abs hitstr hitrn

L42 ANSWER 45 OF 45 ZCAPLUS COPYRIGHT 2002 ACS
1979:86836 Document No. 90:86836 Factors affecting the endo:exo ratio
in Diels-Alder reactions of cyclopentadiene. Smith, John R.
Lindsay; Norman, Richard O. C.; Stillings, Michael R. (Dep. Chem.,
Univ. York, York, Engl.). Tetrahedron, 34(9), 1381-3 (English)
1978. CODEN: TETRAB. ISSN: 0040-4020.

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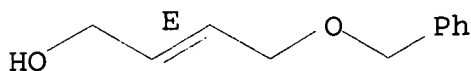
AB The ratio of endo-CHO:exo-CHO products in the Diels-Alder addn. of
trans-PhCH₂OCH₂CH:CHCHO (I) to cyclopentadiene (II) can be altered
from 1:2 to 9:1 depending on temp. and BF₃ catalysis. E.g., for the
uncatalyzed reaction, I with II at 0.degree. (240 h) gave a 2:1
mixture of III (R = CH₂OCH₂Ph, R₁ = R₂ = H, R₃ = CHO) (IV) to III (R =
R₃ = H, R₁ = CHO, R₂ = CH₂OCH₂Ph) (V) whereas at 200.degree. (6 h),
a 1:2 mixture of IV:V was obtained. For the BF₃.Et₂O-catalyzed
reaction of I and II at 0.degree., a mixture of approx. 9:1 IV:V was
obtained. The effect of temp. on the uncatalyzed reaction of II
with OCHCH:CH(CH₂)₆CO₂H to give III [R = (CH₂)₆CO₂H, R₁ = R₂ = H, R₃
= CHO] and III [R = R₃ = H, R₁ = CHO, R₂ = (CH₂)₆CO₂H] was similar.

IT 69152-88-1
(oxidn. of)

RN 69152-88-1 ZCAPLUS

CN 2-Buten-1-ol, 4-(phenylmethoxy)-, (2E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT 69152-88-1
(oxidn. of)

=> d 146 92 cbib abs hitstr hitrn

L46 ANSWER 92 OF 92 ZCAPLUS COPYRIGHT 2002 ACS

1982:143208 Document No. 96:143208 Synthesis of saccharides and related polyhydroxylated natural products. 1. Simple alditols. Katsuki, T.; Lee, A. W. M.; Ma, P.; Martin, V. S.; Masamune, S.; Sharpless, K. B.; Tuddenham, D.; Walker, F. J. (Dep. Chem., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA). J. Org. Chem., 47(7), 1373-8 (English) 1982. CODEN: JOCEAH. ISSN: 0022-3263.

AB A new approach to sugar synthesis is demonstrated through syntheses of tetrityls, pentitols, and hexitols; Ti-catalyzed asym. epoxidn. and new selective opening of 2,3-epoxy alcs. play essential roles.

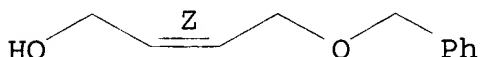
IT 81028-03-7

(asym. epoxidn. of)

RN 81028-03-7 ZCAPLUS

CN 2-Buten-1-ol, 4-(phenylmethoxy)-, (2Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT 81028-03-7

(asym. epoxidn. of)